

was amended to change the order of the elements of the claimed structure to provide proper antecedent basis.

The statement as to novelty was positive with respect to Claims 2, 4, 6 - 14 and 16 - 25 and negative with respect to Claims 1, 3, 5 and 15. The statement as to inventive step was positive with respect to none and negative with respect to Claims 1 - 25. The statement as to Industrial Applicability was positive with respect to Claims 1 - 25 and negative with respect to none.

The statement that Claims 1, 3, 5 and 15 lack novelty under PCT Article 33(2) as being anticipated by Harms et al. is respectfully traversed.

Harms et al. describe an electronically commutated motor. More specifically, as described at Col. 9, lines 46 - 53, in Harms et al., the motor comprises "a flat faced end shield or adapter 73, having a plurality of rabbit-ear extensions 74 thereon is mounted to housing 71 at one opposite end thereof and a thermally conductive enclosure or enclosure means, such as a housing 75 or the like for instance, is arranged in mounting and enclosing association with the flat faced end shield thereby to enclose the housing at the one opposite end thereof."

Applicants respectfully submit that Harms et al. do not describe the presently claimed invention. Specifically, Claim 1 recites a motor endshield assembly comprising "an endshield comprising an outer surface and an inner surface", "a control assembly in contact with said inner surface; and a power assembly connected to said control assembly." Harms et al. do not describe such an assembly. Rather, Harms et al. describe attaching an enclosure to an endshield, best shown in Figure 6, where the separate enclosure contains the electronics associated with an electronically commutated motor and the enclosure also performs the heat sinking function. The Harms et al. electronically commutated motor does not describe an endshield assembly to which the power and control electronics can be attached and which also perform the heat sinking function. Applicants respectfully submit that Claim 1 meets the criteria for novelty and inventive step over Harms et al.

Claims 3, 5 and 15 depend directly from independent Claim 1. When the recitations of dependent Claims 3, 5 and 15 are considered in combination with the recitations of independent Claim 1, Applicants respectfully submit that Claims 3, 5 and 15 likewise meet the criteria for novelty and inventive step over Harms et al.

For the reasons set forth above, Applicants respectfully request that the statement that Claims 1, 3, 5 and 15 lack novelty under PCT Article 33(2) over Harms et al. be withdrawn.

The statement that Claims 11 and 12 lack inventive step under PCT Article 33(3) as being obvious over Harms et al. is respectfully traversed.

Harms et al. describe an electronically commutated motor. More specifically, as described at Col. 9, lines 46 - 53, in Harms et al., the motor comprises "a flat faced end shield or adapter 73, having a plurality of rabbit-ear extensions 74 thereon is mounted to housing 71 at one opposite end thereof and a thermally conductive enclosure or enclosure means, such as a housing 75 or the like for instance, is arranged in mounting and enclosing association with the flat faced end shield thereby to enclose the housing at the one opposite end thereof."

Specifically, Claims 11 and 12 depend directly from independent Claim 1. Specifically, Claim 1 recites a motor endshield assembly comprising "an endshield comprising an outer surface and an inner surface", "a control assembly in contact with said inner surface; and a power assembly connected to said control assembly." No such endshield assembly is taught or suggested by the cited reference. For at least the reasons set forth above with respect to the patentability of independent Claim 1, when the recitations of dependent Claims 11 and 12 are considered in combination with the recitations of independent Claim 1, Applicants respectfully submit that Claims 11 and 12 likewise meet the criteria for inventive step over Harms et al.

For the reasons set forth above, Applicants respectfully request that the statement that Claims 11 and 12 lack inventive step under PCT Article 33(3) over Harms et al. be withdrawn.

The statement that Claims 2, 4, 6 - 10, 13, 14, 16, 17, 19 and 21 - 25 lack inventive step under PCT Article 33(3) as being obvious over Harms et al. in view of Johnson et al. is respectfully traversed.

Harms et al. describe an electronically commutated motor. More specifically, as described at Col. 9, lines 46 - 53, in Harms et al., the motor comprises "a flat faced end shield or adapter 73, having a plurality of rabbit-ear extensions 74 thereon is mounted to housing 71 at one opposite end thereof and a thermally conductive enclosure or enclosure means, such as a housing 75 or the like for instance, is arranged in mounting and enclosing association with the flat faced end shield thereby to enclose the housing at the one opposite end thereof."

Johnson et al describe the use of potting material to support the portion of a circuit board that is distant from the portion of the circuit board supported by attaching an electronic component(s) to a heat sink. More specifically, as described at Col. 1, lines 62 - 67 and Col. 2, lines 1 - 3, in Johnson et al., "(a) housing receiving and supporting the printed wire board and heat sink. The heat sink is mounted on the housing and the printed wire board is mounted on the heat sink and extends outwardly from the heat sink in cantilever fashion...The potting material is in contact with the printed wire board and provides mechanical support for the printed wire board in the housing away from the heat sink."

Specifically, Claims 2, 4, 6 - 10, 13 and 14 depend directly from independent Claim 1. Specifically, Claim 1 recites a motor endshield assembly comprising "an endshield comprising an outer surface and an inner surface", "a control assembly in contact with said inner surface; and a power assembly connected to said control assembly." No such endshield assembly is taught or suggested by the cited combination. For at least the reasons set forth above with respect to the patentability of independent Claim 1, when the recitations of dependent Claims 2, 4, 6 - 10, 13 and 14 are considered in combination with the recitations of independent Claim 1, Applicants respectfully submit that Claims 2, 4, 6 - 10, 13 and 14 likewise meet the criteria for inventive step over Harms et al in view of Johnson et al.

Independent Claim 16 recites a motor endshield for an electronically commutated motor comprising "a shaft opening", "an internal surface comprising a substantially flat raised area, and an external surface" with multiple raised fins and a raised portion surrounding the shaft opening.

Harms et al. in view of Johnson et al. do not teach nor suggest a motor endshield for an electronically commutated motor as described in Claim 16. Rather Harms et al. in view of Johnson et al. suggest mounted electronics in an enclosure, external to a motor, where the electronics mounted to a heat sink provide support for one side of a printed wire board and addition of potting material to the enclosure to provide support for the rest of the printed wire board. Applicants respectfully submit that Claim 16 meets the criteria for inventive step over Harms et al in view of Johnson et al.

Claims 17 and 19 depend directly from independent Claim 16. For at least the reasons set forth above with respect to the patentability of independent Claim 16, when the recitations of dependent Claims 17 and 19 are considered in combination with the recitations of independent Claim 16, Applicants respectfully submit that Claims 17 and 19 likewise meet the criteria for inventive step over Harms et al in view of Johnson et al.

Independent Claim 21 recites a method for assembling a motor endshield assembly for an electronically commutated motor, where the endshield assembly includes a control assembly, a power assembly and an endshield with an inner and outer surface. The method includes the steps of "positioning the control assembly in contact with the inner surface of the endshield and connecting the power assembly to the control assembly.

Harms et al. in view of Johnson et al. do not teach nor suggest a method of motor endshield assembly for an electronically commutated motor as described in Claim 21. Rather Harms et al. in view of Johnson et al. suggest a method of mounting electronics in an enclosure external to a motor, where the mounting of electronics to a heat sink provide support for one side of a printed wire board and adding potting material to the enclosure to provide support for the

rest of the printed wire board. Applicants respectfully submit that Claim 21 meets the criteria for inventive step over Harms et al in view of Johnson et al.

Claims 22 - 25 depend directly from independent Claim 21. For at least the reasons set forth above with respect to the patentability of independent Claim 21, when the recitations of dependent Claims 22 - 25 are considered in combination with the recitations of independent Claim 21, Applicants respectfully submit that Claims 22 - 25 likewise meet the criteria for inventive step over Harms et al in view of Johnson et al.

For the reasons set forth above, Applicants respectfully request that the statement that Claims 2, 4, 6 - 10, 13, 14, 16, 17, 19 and 21 - 25 lack inventive step under PCT Article 33(3) over Harms et al. in view of Johnson et al. be withdrawn.

The statement that Claims 18 and 20 lack inventive step under PCT Article 33(3) as being obvious over Harms et al. as modified by Johnson et al. is respectfully traversed.

Harms et al. describe an electronically commutated motor. More specifically, as described at Col. 9, lines 46 - 53, in Harms et al., the motor comprises "a flat faced end shield or adapter 73, having a plurality of rabbit-ear extensions 74 thereon is mounted to housing 71 at one opposite end thereof and a thermally conductive enclosure or enclosure means, such as a housing 75 or the like for instance, is arranged in mounting and enclosing association with the flat faced end shield thereby to enclose the housing at the one opposite end thereof."

Johnson et al describe the use of potting material to support the portion of a circuit board that is distant from the portion of the circuit board supported by attaching an electronic component(s) to a heat sink. More specifically, as described at Col. 1, lines 62 - 67 and Col. 2, lines 1 - 3, in Johnson et al., "(a) housing receiving and supporting the printed wire board and heat sink. The heat sink is mounted on the housing and the printed wire board is mounted on the heat sink and extends outwardly from the heat sink in cantilever fashion...The potting material is in contact with the printed wire board and provides mechanical support for the printed wire board in the housing away from the heat sink."

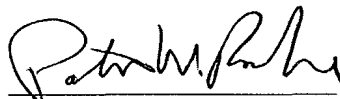
Specifically, Claims 18 and 20 depend directly from independent Claim 16. Specifically, Independent Claim 16 recites a motor endshield for an electronically commutated motor comprising "a shaft opening", "an internal surface comprising a substantially flat raised area, and an external surface" with multiple raised fins and a raised portion surrounding the shaft opening." No such endshield is taught or suggested by the cited combination. For at least the reasons set forth above with respect to the patentability of independent Claim 16, when the recitations of dependent Claims 18 and 20 are considered in combination with the recitations of independent Claim 16, Applicants respectfully submit that Claims 18 and 20 likewise meet the criteria for inventive step over Harms et al as modified by Johnson et al.

For the reasons set forth above, Applicants respectfully request that the statement that Claims 18 and 20 lack inventive step under PCT Article 33(3) over Harms et al. as modified by Johnson et al. be withdrawn.

The statement objecting to Claim 9 under PCT Article 66.2(a)(v) is respectfully traversed. Claim 9 has been amended to provide proper antecedent basis.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to meet the criteria for novelty, inventive step and industrial applicability under PCT Article 33(2)-(4). Favorable action is respectfully solicited.

Respectfully submitted,



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